

ing the afternoon of the 29th. The sloop "Gris" was driven ashore on Corinthian Point in Boston Harbor during a squall on the above date.

Pittsburg, Pa.: light rain prevailed from 1.20 to 3 p. m. on the 30th; at 4.40 p. m. a severe thunder-storm set in from the southwest and continued till 6.15 p. m.; heavy rain, with hail, occurred from 5.10 to 5.30 p. m., the rainfall amounting to 1 inch, most of which fell in twenty minutes; the wind reached a velocity of thirty-six miles an hour from the northwest; the damage done to various kinds of property is estimated at \$70,000.

Hartford, Conn.: a severe hail storm on the afternoon of the 31st caused great damage to corn, tobacco, and other crops in South Glastonbury and neighboring localities. Large trees were blown down and the roads were badly washed.

New London, Conn.: "The Day" of August 1st states the storm of July 31st was among the severest that has been

experienced at New London in many years, and caused damage throughout the city and in other portions of the state; numerous objects were struck by lightning. At Hartford the storm was accompanied by hail which caused much damage to crops in that vicinity.

New Haven, Conn.: during the thunder-storm which began at 2.50 and ended at 4.30 p. m. of the 31st, several buildings and trees were struck by lightning.

WATER-SPOUTS.

Capt. J. Meikle, of the bark "Ashantee," reports having observed a large water-spout July 9th, at 8 a. m., in N. 38° 40', W. 68° 31', during the prevalence of a heavy thunder-storm, with hard sw. squalls and heavy rain from 2 a. m. till noon.

Capt. G. Steuger, of the s. s. "Leerdam," reports: "June 21st, 4.15 p. m., in N. 41° 02', W. 60° 23', observed large water-spouts which moved from sw. to ne."

COTTON REGION REPORTS.

In the following table are given the means of the maximum and minimum temperatures, and the average rainfall for the cotton-belt districts during the month. For the purpose of comparison the means for the five preceding years are also given.

The rainfall for the districts of Galveston and Little Rock differs but slightly from the average; that for the district of Memphis is 1.06 below the average, while in the other districts the rainfall is excessive. The excess for the districts of Augusta, Atlanta, Montgomery, and Savannah is very large, that for Augusta amounting to 7.54 inches. In the last-named district reports from twelve stations give an average of 11.49 inches, which is nearly three times as great as the normal precipitation as determined from the cotton-region observations of the last five years; the average for the Atlanta district (reports from thirteen stations) is more than double the normal, while the excess for the Montgomery district is nearly as great.

The means of the maximum and minimum temperatures in all districts are generally normal or slightly above.

Temperature and rainfall data for the cotton districts, July.

Districts.	Rainfall.			Temperature.							
	Average for July of five preceding years.	Average for July, 1887.	Departures.	Maximum.				Minimum.			
				Mean for July of five preceding years.	Mean for July, 1887.	Departures.		Mean for July of five preceding years.	Mean for July, 1887.	Departures.	
	Inch.	Inch.	Inch.	°	°	°		°	°	°	
New Orleans...	4.26	5.03	+ 0.77	92.9	92.4	- 0.5		73.1	71.7	- 1.4	
Savannah...	5.74	8.65	+ 2.91	92.3	93.0	+ 0.7		72.0	72.7	+ 0.7	
Charleston...	6.36	6.99	+ 0.63	91.8	92.3	+ 0.5		70.5	72.4	+ 1.9	
Atlanta...	4.01	9.77	+ 5.76	90.2	90.5	+ 0.3		68.7	71.1	+ 2.4	
Wilmington...	3.37	6.35	+ 2.98	90.7	92.5	+ 1.8		68.9	71.7	+ 2.8	
Memphis...	2.88	2.82	- 0.06	90.3	92.5	+ 2.2		68.5	70.1	+ 1.6	
Galveston...	2.09	2.07	- 0.02	95.5	95.6	+ 0.1		72.7	74.0	+ 1.3	
Vicksburg...	5.10	5.47	+ 0.37	92.0	92.7	+ 0.7		71.4	72.5	+ 1.1	
Montgomery...	4.34	8.47	+ 4.13	91.7	92.4	+ 0.7		70.6	71.9	+ 1.3	
Augusta...	3.95	11.49	+ 7.54	92.4	92.4	0.0		70.6	71.8	+ 1.2	
Little Rock...	2.59	2.38	- 0.21	92.8	93.2	+ 0.4		68.1	68.5	+ 0.4	
Mobile...	3.78	5.39	+ 1.61	93.5	93.3	- 0.2		70.4	70.0	- 0.4	

INLAND NAVIGATION.

FLOODS.

Raleigh, N. C.: during a heavy thunder-storm on the 7th 4.90 inches of rain fell from 10 to 11.30 p. m. Reports from the surrounding neighborhood show that this phenomenal rainfall was not general; at the signal office, only two miles distant, the rainfall measured but 1.79 inches. Portions of the dam of the water-works were washed out, and the crops lying in the storm's area were somewhat damaged.

Nogales, Pima Co., Ariz.: on the afternoon of the 7th a remarkably heavy rain storm occurred. Streets were flooded and dams and bridges washed away. Washouts occurred on the Sonora Railroad, causing delay of trains. On the afternoon of the 13th another heavy rain storm occurred. It is reported that on the mountains to the southwest of Sonora there was a "cloud burst," which in a short time flooded a portion of Sonora, washing away a number of houses.

Fort Apache, Ariz.: during the prevalence of a thunder-storm from 5.20 to 8.10 p. m. on the 8th, a "cloud burst" occurred on the east fork of the White River, in the mountains east of station. A volume of water three feet deep came down the canyon, carrying on its crest large trees, etc.; the water subsided in about two hours.

The "Salt Lake Herald" of the 13th states:

FILLMORE, UTAH, July 11.—Last evening a flood again devastated Fillmore and the surrounding country. The greatest damage was done in the mountains east of this place. Three saw-mills, with logs and lumber aggregating thousands of feet, were swept entirely away. Half of a large herd of sheep

was lost, the herders narrowly escaping with their lives. The damage done will materially affect the whole community.

The Saint Louis "Globe-Democrat" of the 15th contained the following:

DENVER, COLO., July 14.—A terrific cloud-burst occurred in Tucker Canyon, near Golden, twenty miles from Denver, this afternoon. The canyon was full of campers, ore-haulers, etc. A slight rain storm succeeded peals of thunder, and suddenly a wave nearly twenty feet high swept down the narrow canyon, which for weeks had been completely dry. Everything was swept before it. The sides of the gulch, which is only sixty feet wide, were swept away, as were also the trail and carriageway for miles up the canyon. Those who were caught out, so far as is known, left their teams and fled to the mountains. All the latter part of the afternoon people have been walking into Golden from the hills. They report the loss of their teams and vehicles, and all give exciting accounts of their narrow escapes from death. They fear that many lives have been lost, as many people who went up into the mountains have not yet been heard from.

The huge wave in the canyon was the result of a cloud-burst, which may have occurred far up in the canyon. The loss to ranchmen in the valley has been heavy.

The Cheyenne, Wyo., "Daily Leader" of the 16th contained the following:

ALBUQUERQUE, N. MEX., July 16.—A special to the "Democrat" from Benson, Ariz., says the heavy rains of the past few days have caused serious washouts on the New Mexico and Arizona and Sonora railroads, and it will be three or four weeks before trains can go through to Nogales. Water has run down from the mountains in large volumes, drowning considerable stock in the valleys.

San Francisco, Cal.: the first mails from the East since the 16th arrived during the night of the 18th, the delay having